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PUBLIC HEALTH REPORTS

VOL. 31 JULY 21, 1916 No. 29

JURISDICTION OF MUNICIPAL BOARD OF HEALTH.

CITY HEALTH REGULATIONS INTENDED TO GOVERN CONDITIONS OUTSIDE THE CITY ARE VOID.

The board of health of the city of St. Paul, Nebr., adopted a regulation making it unlawful to maintain a slaughterhouse within 130 rods outside the city limits.

A prosecution was brought under the regulation, but the Supreme Court of Nebraska decided that the regulation was void as being beyond the powers conferred upon the city board of health by the State law.

The opinion is published in this issue of the Public Health Reports, page 1949.

HAY FEVER AND ITS PREVENTION.

By W. SCHEPPEGRELL, M. D., President American Hay-Fever-Prevention Association, New Orleans, La

The symptoms of hay fever in the early stage resemble those of an incipient cold. It is attended with sneezing, blocking of the nostrils due to the swollen mucous membrane, watery discharge from the nose, slight elevation of temperature, and later a tendency to subnormal temperature. There is itching of the inner angle of the eye and of the roof of the mouth in the region of the soft palate. The difficulty of nasal breathing, which is usually present, is aggravated when the patient is lying down and is less when the patient is exercising. Unlike an ordinary cold, however, the discharge usually remains thin and watery and becomes thickened only toward the termination of the attack.

There is usually considerable general depression associated with the subnormal temperature and the discomfort in breathing. The mouth and throat become dry because the obstruction of the nose necessitates mouth breathing, thus adding to the discomfort. Many of these cases are complicated with asthma, which increases the suffering of the patient.

Relief is experienced when the supply of pollen from any cause is diminished or when it ceases, as on a sea voyage. A continued rain gives relief; also the absence of wind, or a wind blowing the pollen away from the patient. The symptoms described above and their recurrence at certain periods of the year should simplify the diagnosis.

History.

The development of hay fever about the time of hay harvest led to the belief that this was the cause of the disease. It was not until about 1870 that the relationship of pollen to the disease was established.

The particular pollens causing this disease were for a long time unidentified. As an illustration of this, when a patient developed an attack in the neighborhood of weeds, the conspicuous goldenrod was at once suspected and the ragweed, with its insignificant green flowers, was unobserved. While the pollen of many plants is wind borne, it varies to a marked degree. The pollen of the goldenrod, for instance, is toxic to susceptible persons and will develop a reaction if applied to the nostrils, but it is not abundant, is dislodged with difficulty, and is wind-borne to only a slight degree. In spite therefore of the fact that the goldenrod is treated in most reports and textbooks as an important factor in hay fever, it is responsible in only a small percentage of cases.

In order to understand the subject of pollens and the reason for certain varieties being so abundant in the atmosphere, it will be well first to consider the nature of pollen and its relation to flowers in general.

A Perfect Flower.*

A diagram of a perfect flower is shown in figure 1. In order to be perfect a flower must have two sets of organs, first, one or more bodies occupying the center of the flower, called *pistils* and, second, around these a set of bodies, varying in number from one to many, called *stamens*. What is popularly understood as the flower, the bright-colored portion, is really only an accessory which may or may not be present. In the figure shown (Fig. 1) the center of the flower is occupied by one large pistil. The basal portion is the ovary (F), which in this case contains a single seed (S), as yet undeveloped. On the top of the ovary is a short tube, the style (g), while the extreme tip of the style is the stigma (n). The two or three little grains on the top of the stigma (p), shown in the figure, are the pollen grains. Around the pistil are two stamens, each consisting of a stalk or filament, at the end of which is a sack-like body, divided into two partitions, the anther (a). In the anther is formed a powdery substance, which is the pollen.

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* "A Perfect Flower," "Pollen," and the botanical descriptions of the hay-fever weeds were prepared by Prof. R. S. Cocks, Department of Botany, Tulane University.

Pollen.

No plant can form a perfect fruit with seeds unless it has been fertilized by pollen. This must first be deposited on the stigma (pollination), and the pollen grain must germinate and grow down the style until it reaches the ovule in order to complete the process of fertilization.

In perfect flowers in which the two kinds of organs are almost touching each other, as is very often the case (Fig. 2), pollination is a very simple matter. But there are many flowers which are not perfect, some containing stamens only (Fig. 3) and others only pistils (Fig. 4). In these cases the pollen may have to travel a considerable distance, even several miles, to reach a pistil. This is the case with the persimmon, willows, the ragweeds, grasses, and many other plants.

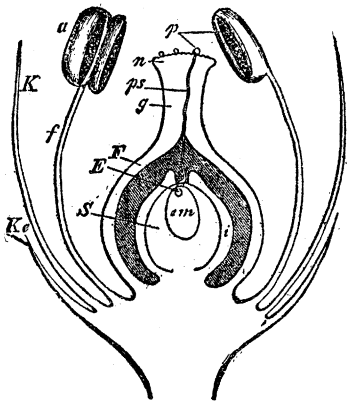

FIG. 1.—A perfect flower. From "Elementary Botany," by George Macloskie.

Conveyance of Pollen.

There are two principal methods by which pollen is carried from one plant to another. One method is by insects, the other by the wind. In the first case the flower is usually bright-colored, or white if it blooms at night, sweet-smelling and with honey glands, and the pollen grains are comparatively few. In the second case the flower is not bright-colored, sweet-smelling, nor honey-secreting, and the pollen is formed in immense quantities and is light and buoyant.

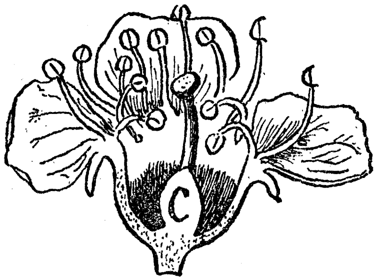

FIG. 2.—Section of a flower (cherry blossom) showing the pistil surrounded by the pollen-bearing stamens. Modified from "How Plants Grow," by Asa Gray.

The *only pollens which can cause hay fever are those which are carried by the wind*, and are therefore in the air. In warm climates, where weeds of some kind are growing almost continually, there is probably no month in the year in which there is not some pollen in the air. All plants that have very inconspicuous flowers, as is the case with most of our common weeds, which are very numerous and form pollen in great abundance, are probably wind-pollinated and may be regarded as dangerous from a hay-fever standpoint.

Hay-Fever Weeds.

The characteristics of hay-fever weeds may therefore be summarized as follows: 1. They are wind-pollinated. 2. Very numerous. 3. The flowers are inconspicuous, without bright color or scent, and the pollen is formed in great quantities. These are the characteristics of almost all plants which occur as weeds in empty lots, neglected gardens, sidewalks, and waste land generally.

How Hay-Fever Weeds Are Recognized.

All weeds having the above qualities are suspicious from a hay-fever standpoint. To place them definitely in this class, however, they must stand the biological test. A small amount of the pollen is applied to the nostril of the patient or to the angle of the eye, and if this produces a hay-fever reaction it completes the test and the plant is classified with the hay-fever weeds. This reaction to be positive must be produced not only during the hay-fever season, but at any time of the year.

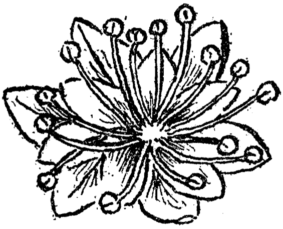

FIG. 3.—Pollen-bearing staminate flower of moonseed. Modified from "How Plants Grow," by Asa Gray.

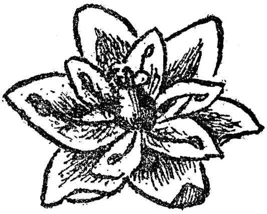

FIG. 4.—Pistillate (fertile) flower of moonseed. Modified from "How Plants Grow," by Asa Gray.

To establish the toxicity of a weed, however, both the botanical and biological tests are required. The botanical test is not sufficient, as many weeds, in spite of being wind-pollinated and numerous and with insignificant flowers, may be harmless because they fail in the biological test.

On the other hand, many plants which pass the biological test do not enter the hay-fever class because they are not numerous or wind-pollinated, and therefore their pollen is not in the atmosphere and can not reach the nostrils of susceptible persons unless by direct contact with the flower. The failure to include this botanical test has resulted in placing many harmless plants, such as the rose and golden rod, in the hay-fever list.

Type of Hay-Fever Weeds.

The plants which form the type of hay-fever-producing weeds are the common ragweed (Fig. 6) and the giant ragweed (Fig. 7). In the former the pollen is not only wind-borne, but is produced in such abundance that a slight blow will dislodge it in clouds, and is so light that the wind will easily carry it to a considerable distance. Under favorable climatic and soil conditions this weed is found in every neglected field, on roadsides, and in vacant city lots. In more moist lands, however, the giant ragweed takes its place and is found in similar profusion. These two varieties of ragweed have been found by the research department of the American Hay-Fever Prevention Association to be responsible for about 85 per cent of all cases of autumnal hay fever in the sections in which these weeds are prevalent. As the large majority of hay-fever cases in the United States are of the autumnal hay-fever form, the importance of a careful study of the most effective means of eradicating these weeds is clearly indicated.

Cause of Reaction.

If a susceptible person is brought within the pollinating radius of hay-fever weeds so that the pollen may reach his nostrils in sufficient quantity he will react, the length of time required for reaction depending on the kind and amount of pollen he has inhaled and his resistance to hay fever. In the cases in which the variety of hay fever is known, as in the ragweed form, the commencement of the attack may be accurately predicted by watching for the appearance of the pollen on the staminate flowers, and the disappearance of the attacks may likewise be foretold.

Proof of Reaction.

For the past eight years we have kept on hand the pollen-containing flowers of hay-fever weeds for testing patients in the diagnosis of hay fever. In susceptible subjects typical reactions can be induced by inhaling the pollen not only during the ordinary hay-fever season, but at any time of the year. The positive relationship of pollen to hay fever is in this way absolutely confirmed.

The relationship of the ragweeds to fall hay fever, in which the development of the disease, its duration, and conclusion correspond with the pollinating period of these weeds, has been clearly established. A more difficult problem, however, is the identification of other plants which are responsible for the remaining forms of hay fever. These, while less frequent than the autumn form, are important, not only because they represent in the aggregate a considerable number, but also because they are frequently of longer duration.

In the following list, the weeds are described not only because they represent the principal causes of hay fever, but also because they characterize the type of hay-fever weeds in general. Their actual number is evidently very large, as any weed with abundant wind-borne pollen and growing in great profusion, probably has its hay-fever victims.

Common Hay-Fever Weeds.

1. *Common ragweed, Roman wormwood—Ambrosia artemisiæfolia* (Fig. 6).—This Ambrosia or ragweed is called "artemisiæfolia" on account of its leaves resembling those of the wormwood (Artemisia). It is an annual with leaves much cut and thin, opposite and alternate, as shown in the illustration. The leaves are variable, however, those on the flowering branches sometimes being undivided. It has spikes of green flowers (staminate) at the end of the branches. The pistillate or fertile flowers are at the intersection of the branches with the stalks. It is found along roadsides and in dry situations, especially in fields where a crop of wheat, rye, or oats has been harvested in early summer and afterward neglected. It grows from 1 to 5 feet in height and blooms from August to October or later. It is a native of America and is found in dry soil from Nova Scotia to Florida and west to British Columbia and Mexico. It is comparatively rare and local west of Kansas, and is then replaced by *Ambrosia psilostachya, Franseria acanthicarpa* and *Iva axillaris,* all of which also have abundant wind-borne pollen.

2. *Giant ragweed—Ambrosia trifida* (Fig. 7).—A tall unsightly weed, also called "horse-weed," 6 to 15 feet high, with a rough, hairy stem. The lower leaves deeply three-parted, with separate margins. Some of the upper leaves undivided, oval or ovate in shape. The flowers are in panacled racemes, the upper flowers staminate, the lower pistillate. It is common in moist soil from Quebec to Florida, and west to Nebraska, Colorado, and New Mexico. In the moist land near the Gulf Coast it forms about 90 per cent of all the ragweeds, while in the drier section of the country the reverse is the case.

3. *Western ragweed—Ambrosia psilostachya* (Fig. 8).—A perennial weed, 2 to 6 feet high, growing from running root stocks, thicker and stouter than the common ragweed, covered with loose shaggy white hairs; leaves thick, much divided, the lobes of the leaves lanceolate and acute; the staminate heads on short pedicels; the fruit solitary in the axils below. This is the common form in the prairie country of Louisiana and in the West generally it replaces the common ragweed.

4. *False wormwood—Bastard feverfew—Parthenium hysterophorus* (Fig. 9).—Two to three feet high, with small white flowers, resembling tiny cauliflowers. It is almost always in bloom and may therefore cause hay fever at any season of the year. It is very common along the streets and sidewalks, and in vacant city lots. Leaves much divided, hairy, closely resembling the leaves of the common ragweed, from which it can easily be distinguished by the small white flowers. Florida and Alabama to Texas. January to December.

5. *Marsh elder—Iva ciliata* (Fig. 10).—An annual 3 to 6 feet high, with a rough, hairy stem, and small nodding greenish-white heads of flowers, each subtended by a leafy bract. Leaves ovate, pointed, coarsely toothed, downy beneath, on slender ciliate petioles, bracts of the involucre and fertile flowers, three to five. Moist ground and waste places generally. Nebraska to Louisiana, Texas, and New Mexico. August to November.

6. *Western elder—Iva auxillaris.*—A herbaceous western plant growing from woody creeping root stocks; the stems or branches nearly simple, a foot or two high; leaves variable in shape, from obovate to linear, obtuse mostly entire, sessile, rarely over

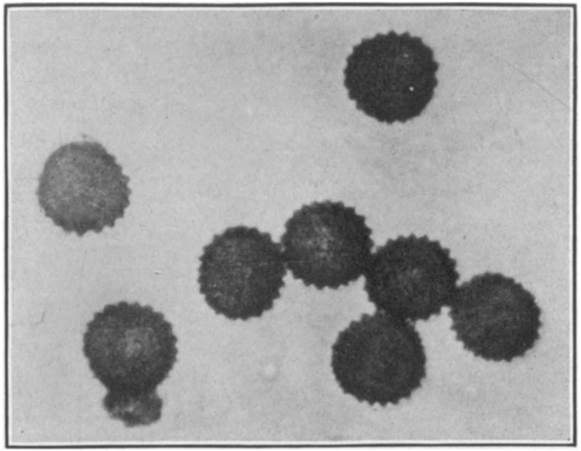

FIG. 5.—POLLEN OF GIANT RAGWEED, MAGNIFIED 750 DIAMETERS.

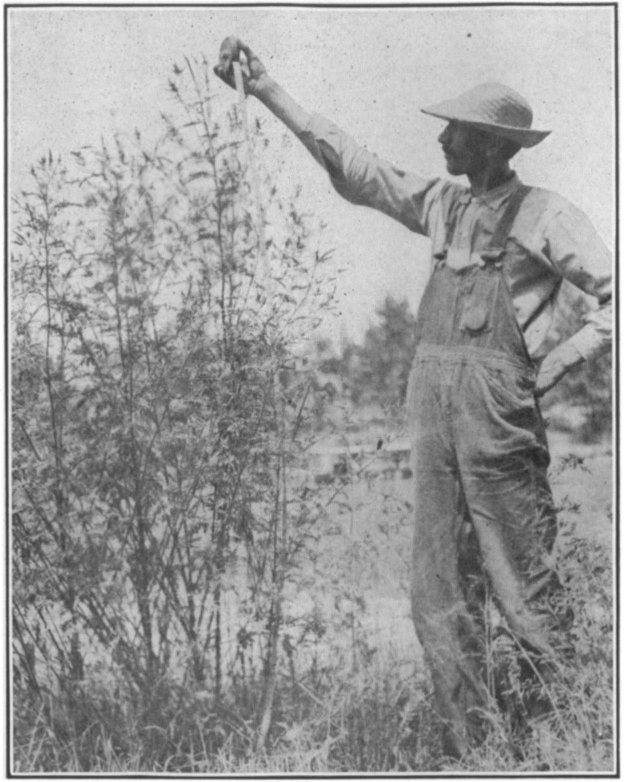

FIG. 6.—COMMON RAGWEED (AMBROSIA ARTEMISIAEFOLIA).

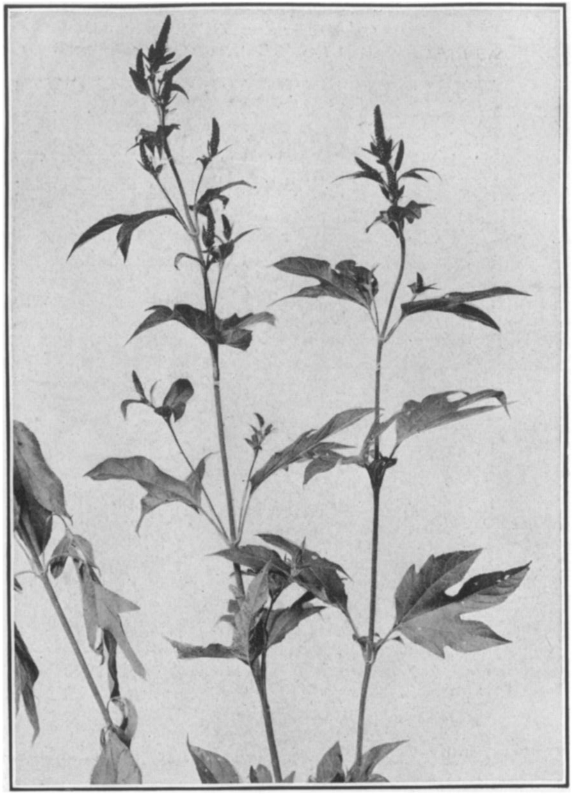

FIG. 7.—GIANT RAGWEED (AMBROSIA TRIFIDA).

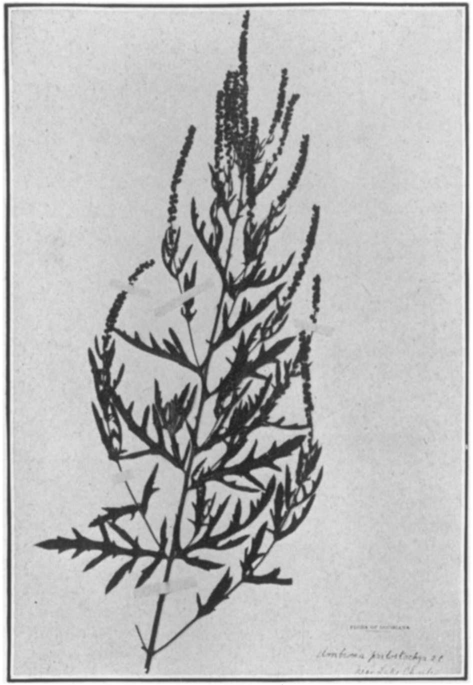

FIG. 8.—WESTERN RAGWEED (AMBROSIA PSILOSTACHYA).

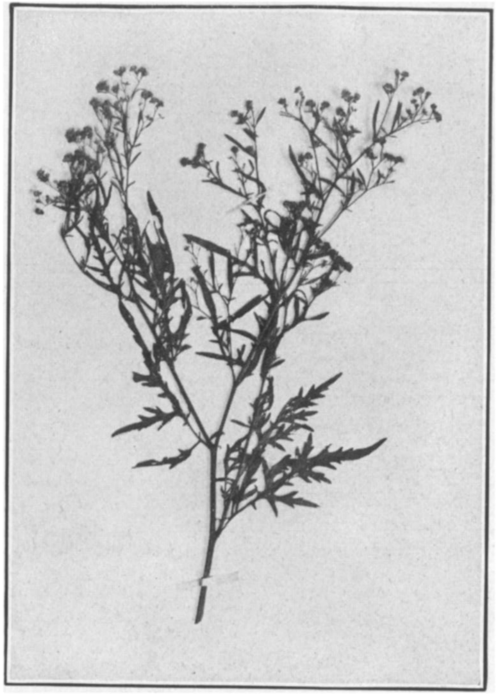

FIG. 9.—FALSE WORMWOOD, BASTARD FEVERFEW (PARTHENIUM HYSTEROPHORUS).

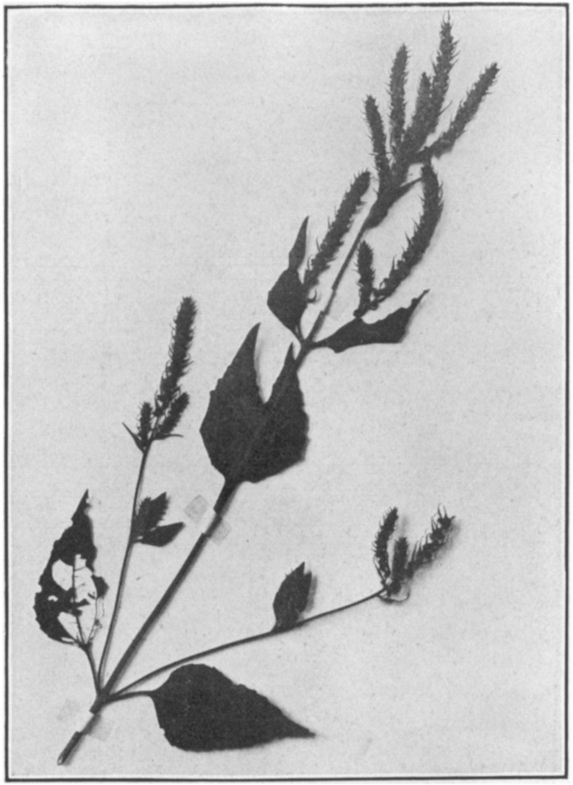

FIG. 10.—MARSH ELDER (IVA CILIATA).

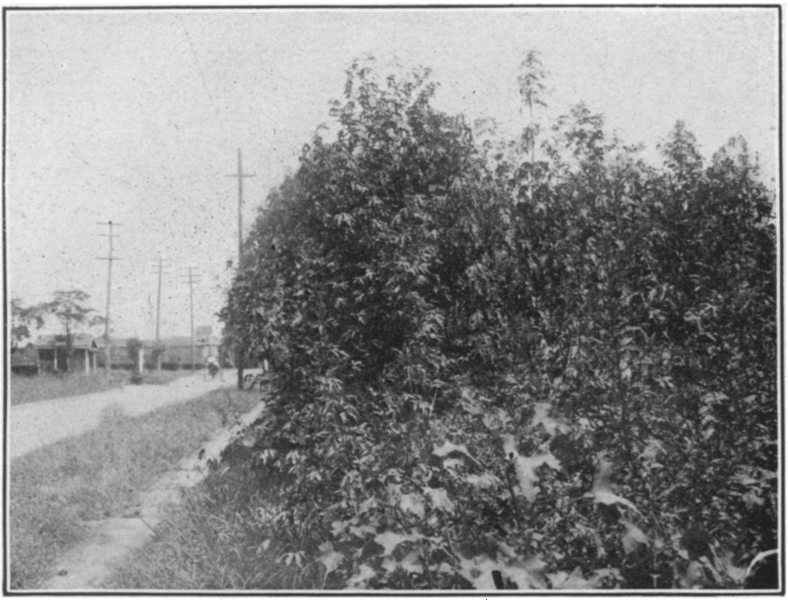

FIG. 11.—HAY-FEVER WEEDS (GIANT RAGWEED) ON SUBURBAN ROADSIDE.

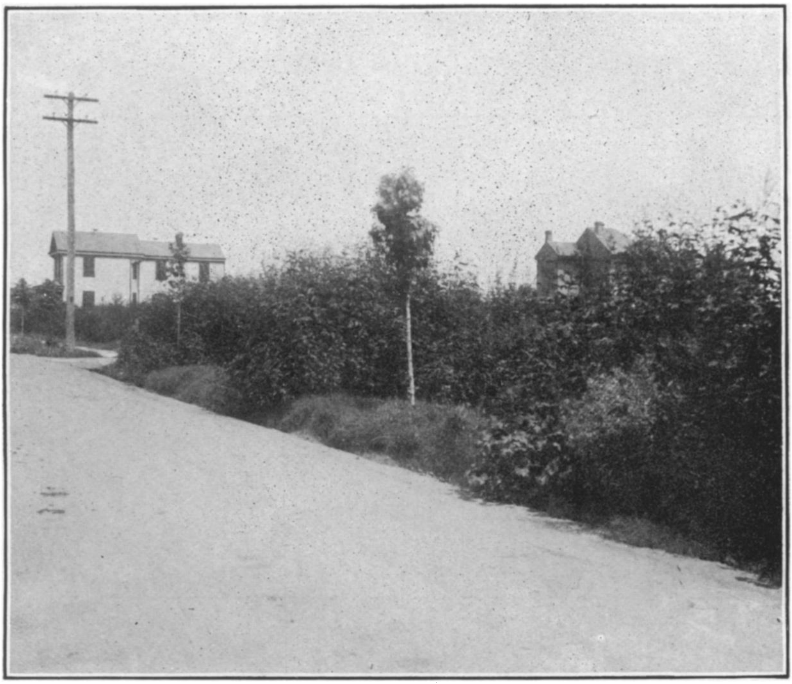

FIG. 12.—HAY-FEVER WEEDS (GIANT RAGWEED AND MARSH ELDER) ON CITY LOT AND SIDEWALK.

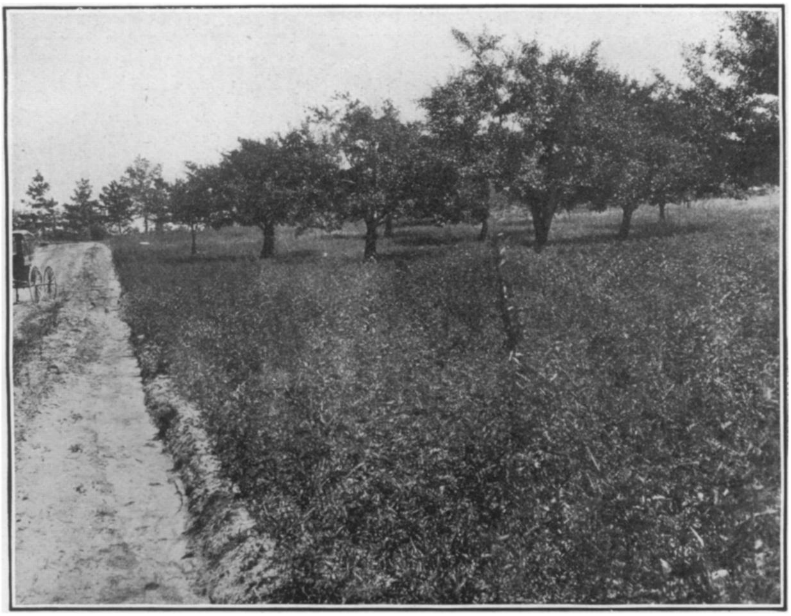

FIG. 13.—HAY-FEVER WEEDS (COMMON RAGWEED) IN NEGLECTED ORCHARD ADJOINING PUBLIC ROAD.

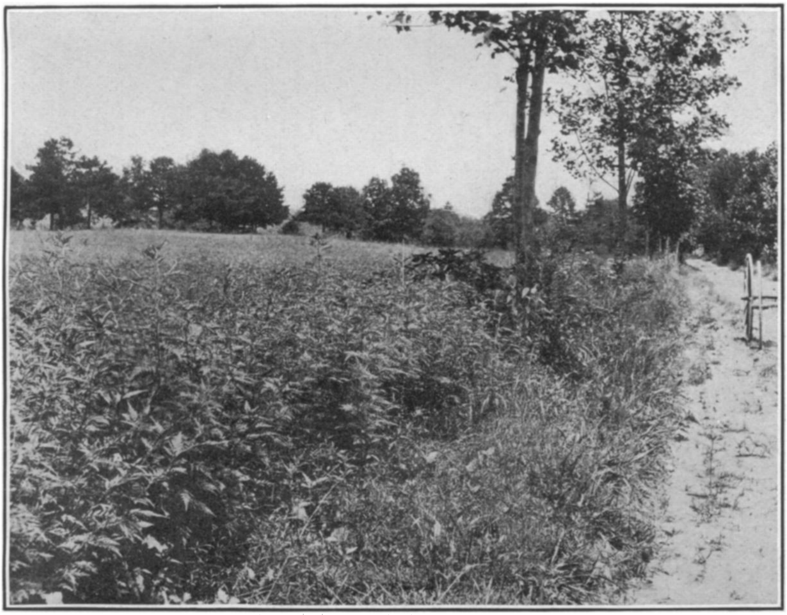

FIG. 14.—HAY-FEVER WEEDS (COMMON RAGWEED) IN NEGLECTED OAT FIELD.

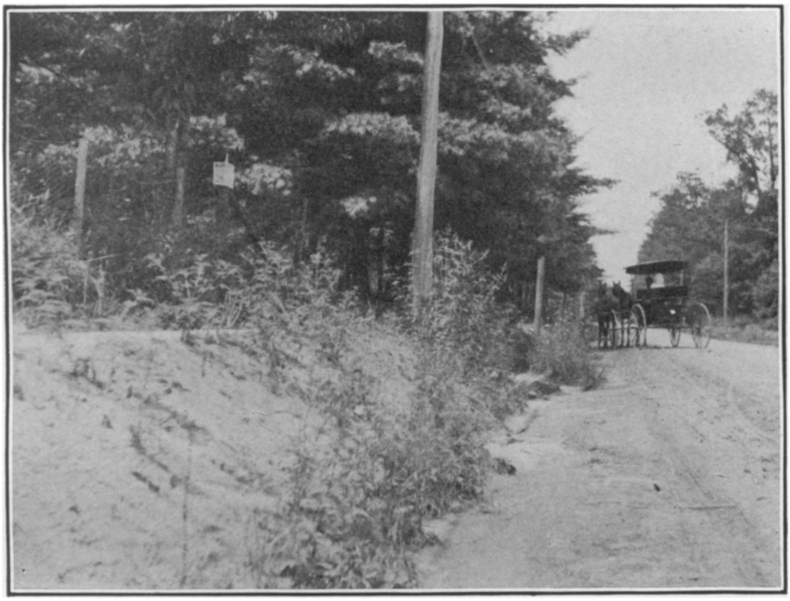

FIG. 15.—HAY-FEVER WEEDS (COMMON AND GIANT RAGWEED) ON COUNTRY ROADSIDE.

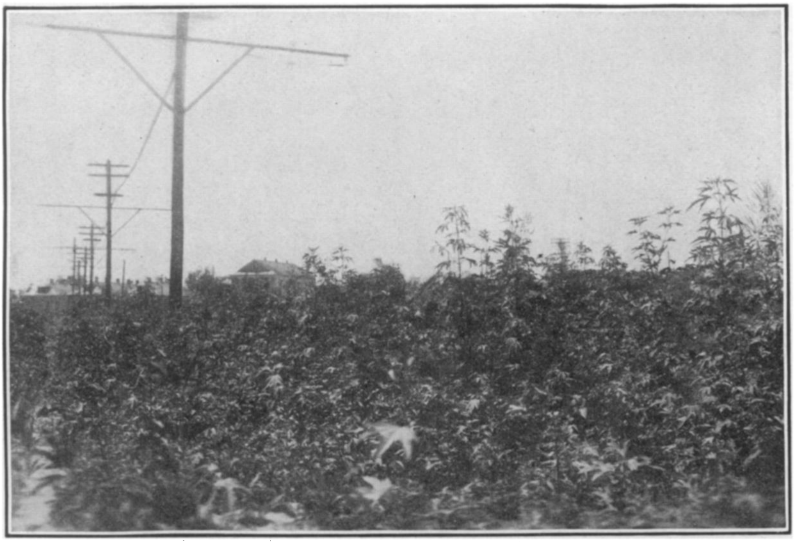

FIG. 16.—HAY-FEVER WEEDS (GIANT RAGWEED AND MARSH ELDER) ADJOINING A PUBLIC PARK.

an inch long, the uppermost usually much surpassing the mostly solitary heads in their axils. Growing usually in sandy saline soil.

7. *Careless weed, thorny amaranth—Amaranthus spinosus.*—A smooth, bushy branched annual naturalized from Tropical America. Stem reddish; leaves ovate to ovate-lanceolate, dull green; a pair of spines in their axils. Flowers small, greenish-yellow, crowded in close and small axillary clusters; staminate and pistillate flowers separate, three stamens to a flower. Three to six feet high, widely spreading. Waste ground generally, common on empty ground that has been cultivated. April to December.

8. *Cockle bur—Xanthium canadense.*—A coarse annual, with branching stems and alternate petioled leaves. Leaves broadly ovate, cordate, usually three-lobed and simply or doubly dentate. Sterile and fertile flowers in different heads, the latter clustered below, the former in short spikes. The fruit, a rough burr, with usually two curved beaks and covered with prickles straight-tipped or hooked, 2 to 6 feet high. Rich soil, especially moist places. June to December.

9. *False ragweed—Franseria acanthicarpa.*—A herbaceous plant, diffusely spreading from an annual or perennial root; rough and often covered with grayish hairs; leaves much divided, closely resembling Ambrosia; sterile and fertile heads, sometimes separate, sometimes mixed; the fertile involucre with a single pistil in each cell, armed with spines in more than one series; spines 45 mm. long, flattened, the tip usually straight, the whole head resembling a burr. A western plant, Minnesota, Saskatchewan, Canada, and southwest.

10. *Yellow dock—Rumex crispus.*—Coarse herbs, with small unsightly greenish-brown flowers, which are crowded and commonly whorled in panicled racemes; the petioles of the leaves sheathing at the base. Two to three feet high. Leaves with strongly wavy, curled margins, lanceolate, acute.

The Grasses a Cause of Hay Fever.

It should also be remembered that the grasses are on the hay-fever list. They answer the botanical requirements of being abundant, wind-pollinated, with insignificant flowers and abundance of pollen. They also pass the biological test by being noxious to a large class of hay-fever sufferers—in fact, in England and Europe generally, where the ragweed and other weeds of this class are not found, they are the most common cause. They begin to pollinate in May and are one of the most common causes of hay fever commencing at that season.

The grass family (Gramineæ) is very extensive and includes many of the cultivated forms. Some of the common varieties are Johnson (*Sorghum halapense*), Canary (*Phalaris canariensis*), and Smut grass (*Sporobolus indicus*).

Total Number of Hay-Fever Weeds.

The above list has been prepared to show the most common hay-fever weeds. These, however, form only a small proportion of the total varieties, and it is probable that the majority of weeds, which are found in great profusion and the pollen of which is abundant and wind-borne, are the cause of hay fever to some persons.

Prevalence.

It has been found that in most parts of the United States from 1 to 2 per cent of the population suffer from hay fever at some portion of the year, indicating that its victims may be counted by the hundred thousands.

Susceptibility.

The question of susceptibility is a complicated subject, but in this respect does not differ materially from susceptibility in other diseases. It is well known, for instance, that while many persons are extremely sensitive to poison ivy, others can handle it with impunity. In diphtheria, also, we find that some persons, known as "carriers," actually have these germs in their throats without being infected with this disease.

Cause of Reaction.

The reaction of hay fever is a complex process. The primary irritation may take place immediately or may be deferred for several minutes. This is influenced by the physical formation of the pollen. In plants in which the pollen is covered with spiculæ (Fig. 5), such as the *Ambrosia artemisiæfolia* and *trifida*, *Parthenium hysterophorus*, *Dracopis amplexicaulis*, etc., the primary reaction is almost immediate; while with smooth pollen, such as the *Amaranthus spinosus*, *Rumex crispus*, *Chenopodium anthelminicum*, and the Gramineæ, it is deferred and mild. The persistency with which the mechanical irritation of the pollen is maintained and its influence on the secondary reaction is still under investigation.

The secondary reaction of hay fever is partly due to the continued mechanical irritation of the inhaled pollens and partly to the absorption of the pollen protein through the mucous membrane of the nostrils. The degree to which the patient can resist the primary irritation of the pollen and the extent to which the absorbed pollens are neutralized establish the degree of susceptibility or the immunity of the patient.

Immunity.

Immunity in hay fever is frequently only apparent, the freedom from attack being due to insufficient exposure. This explains the case of persons who have reached the age of 30 or more without being affected, who suddenly develop an attack when they visit a place in which hay-fever pollen is in the atmosphere, or when, as frequently happens, they move their residence to such a locality.

One attack increases the susceptibility, and for this reason is usually followed by other attacks. The investigations of the Research Department of the American Hay-Fever-Prevention Association also indicate that many persons, apparently free of hay fever, react to hay-fever pollen if the quantity is, for any reason, greatly increased.

Hay Fever in Children.

Hay fever is common in children, but the reason that this is not more generally known is that these attacks are usually mistaken for "colds." In view of this, parents should be warned, when the symptoms suggest hay fever, that the child should not be exposed to infection from hay fever weeds.

Among the weeds which are likely to infect children is the daisy fleabane (*Erigeron strigosus*). While it is not strictly a hay-fever weed, as it is also fertilized by insects, it produces an abundance of noxious pollen, which will develop hay fever if applied directly to the nostrils. It somewhat resembles the common daisy and is therefore frequently collected by children.

The daisy fleabane is a singularly common weed which grows from 1 to 2 feet in height. The light green leaves are linear and toothless or nearly so, the lower one being broad at the tip. The little daisy-like flowers are one-half inch in width, and with a large green yellow disk; occasionally the white rays are lilac-tinged and sometimes they are extremely short or altogether absent. They are common in neglected fields and on roadsides.

The pollen of the fleabane is so noxious that one application of the flower to the nostril may produce an attack of hay fever lasting three or four days. In one case, in which this was inhaled in order to test the reaction, severe symptoms of hay fever developed in a few minutes, and the constitutional symptoms in an hour. The effects lasted four days, the local effect being limited to the left nostril, to which the pollen was applied. This case resembled a "cold" so perfectly that, had the origin not been known, it would undoubtedly have been so considered.

Care should therefore be exercised in allowing children to inhale flowers of suspicious weeds, not only on account of the danger of producing an acute attack of hay fever but also because such an attack increases the child's susceptibility to hay-fever pollens.

Treatment.

In regard to treatment, it must be admitted that thus far no method has given very satisfactory results. Immunizing injections of pollen extracts and of vaccines have been tried, but have thus far not passed the experimental stage. It is hoped that further investigations along these lines will eventually give sufficient data to decide the reliability of these methods.

Prevention.

When we realize the great number of persons affected with hay fever and the great suffering which it entails, we can appreciate the importance of concerted efforts to prevent this disease. The first important step in the work of prevention is the education of the public in the responsibility of pollens of weeds in causing hay fever. When the public realizes that the common weeds are the cause of suffering to many persons who may be living at a considerable distance, it will view these weeds from a new angle and will make use of one of the many ways of destroying them, or at least preventing them from reaching the stage of pollination.

Eradication.

The method of eradicating the hay-fever weeds is naturally a question of convenience and economy. The most effective is careful cultivation. Where this is not practicable, these weeds may be kept down by grazing cattle, and especially by sheep. When neither of these methods is available, the weeds should be destroyed or cut before they reach the flowering stage, as this will prevent both the pollinating and the formation of the seeds. On the roadside, which is a favorite site for hay-fever weeds, it is sometimes found to be more economical to use some form of chemical weed killer. When these methods are persistently carried out for a few years, the results will justify the cost and the energy expended.

An important item in the eradication of hay-fever weeds is the distance at which pollen may produce an attack of hay fever. It has been shown by means of glass slides exposed to the wind that some pollen may travel a great distance—even several miles. We have found, however, that pollen scatters rapidly as it is carried by the wind from the parent weed, the decrease being estimated to be inversely as the square of the distance. On this account pollen is not often a source of hay fever at a distance of over a half mile, and even a much shorter distance is often sufficient to give relief. According to the above rule, a patient at 1,000 feet, or about three ordinary city blocks, would inhale only one one-hundredth part of the pollen to which he would be exposed at 100 feet.

Special Legislation.

The warfare against weeds, even from an agricultural standpoint, has been considered of so much importance that many States have enacted laws to control them. So difficult was the task of fighting these weeds individually, and so onerous from the standpoint of labor and expense, that the legislative power of the State was invoked to assist in their eradication.

In many cases this has been entirely successful, as the weeds against which this special legislation was directed have practically been eradicated.

The most important hay-fever weeds, however, such as the ragweeds, have not been specified in most of these laws, as their noxious character from a health standpoint has only recently been recognized; but many of the less active hay-fever weeds are mentioned, such as the yellow dock, cocklebur, etc. In New York an antiweed bill has recently been introduced in the State legislature, which specifically mentions the ragweeds and other hay-fever weeds.

The following is a list of the States having antiweed laws and the weeds which form the object of this legislation:

Laws of the various States for the destruction of weeds.

Connecticut.—Statutes providing for the destruction of Canada thistle, burdock, white or oxeye daisy, snapdragon or toadflax, sow thistle, yellow dock, mustard, wild parsnip, and quack grass.

Idaho.—Act enabling 25 per cent of resident freeholders of any road district to petition board of county commissioners for the destruction of any noxious weeds.

Illinois.—Destruction of cocklebur, Canada thistle, Russian thistle, and all other kinds of thistle.

Michigan.—Destruction of Canada thistles, milkweed, wild carrots, oxeye daisy, or other noxious weeds.

Missouri.—Destruction of Canada or Scotch thistles.

North Dakota.—Destruction of noxious weeds.

South Dakota.—Destruction of wild sunflower, Canada thistle, cocklebur, burdock, and quack grass.

Oregon.—Destruction of Russian thistle, Canada thistle, Chinese thistle, cocklebur, *Atriplex argentia* (called silver salt bush).

Ohio.—Destruction of all brush, briers, burrs, vines, Russian or Canadian or common highway thistles growing along the public roads.

Pennsylvania.—Destruction of Canadian weeds or thistles.

The above data were obtained by an inquiry addressed to the attorney general of each State by Prof. W. J. Waguespack,[1] who reports that the following-named States also have antiweed laws: Alabama, Arizona, California, Kentucky, South Carolina, and Washington. The lists of the weeds to be controlled by these States have not been obtained.

In New Orleans an effective ordinance for the control of hay-fever weeds was introduced by the American Hay-Fever-Prevention Association and enacted by the city council January 25, 1916, and is now being actively enforced. It has already resulted in a marked reduction of the number of hay-fever cases.

While such laws, properly enforced within corporate limits, will be of valuable assistance, permanent relief will require uniform legislation by the various States. In the States in which weed laws already exist, as in Connecticut, Idaho, Illinois, Michigan, Missouri, North and South Dakota, Oregon, Ohio, Pennsylvania, etc., the amendment of these statutes to include the ragweeds and other hay-fever weeds should present no great difficulty. In the remaining States the introduction of suitable legislation will be facilitated by the education of the public in the need of such laws not only from an agricultural but also from a sanitary and economic standpoint.

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Health is one of man's most valuable assets, and every person has a right to demand that his health shall not suffer on account of neglect on the part of his neighbor. If hay-fever weeds are allowed to grow on neglected premises, vacant lots, and uncultivated fields and to infect the air with noxious pollen, the sufferers are evidently entitled to relief. There will always be persons who respect their neighbors' rights in health as well as in other matters only when compelled by the majesty of the law. A thorough education of the public regarding the noxiousness of hay-fever weeds, reinforced by adequate legislation, should soon result in removing hay fever from among the list of common diseases.

HEALTH INSURANCE RECEIVING ATTENTION.

At the last meeting of the American Medical Association the house of delegates recommended that every constituent State association be requested to establish a committee on social insurance to work in conjunction with the committee on social insurance of the American Medical Association.

The American Academy of Medicine adopted a resolution authorizing the appointment of a committee to be known as the "social insurance committee," whose duty would be to make careful study of the problem of social insurance, especially those phases known as health insurance, industrial insurance, accident insurance, mothers' insurance, and insurance against nonemployment, and that this committee be requested to submit a preliminary report dealing with health insurance and its relation to physicians to the executive committee before December 1, 1916.

The American Association of Industrial Physicians and Surgeons, organized in Detroit June 12, 1916, created a committee to study health insurance in its relation to the industrial physicians.

The conference of State and Territorial health authorities with the United States Public Health Service has a standing committee on health insurance. The report of this committee, which was made in May, 1916, appears on page 1919. The committee is still at work on this subject.